

Claims

1. Mammalian cell having a first and a second side which both sides form part of the outer surface of such cell and which both sides are different from the areas of contact of such cell and which first and second side are distinguished from each other by their localization at opposite ends of such cell wherein the first side carries a functional hNTCP protein and the second side carries a functional hBSEP protein.
2. Mammalian cell as claimed in claim 1 wherein the first side is the basolateral side and the second side is the apical side.
3. Mammalian cell as claimed in claim 1 and 2 wherein the first side is the apical side and the second side is the basolateral side.
4. Mammalian cell as claimed in claim 1 to 3 wherein the cell is an epithelial cell of the kidney, of the bowels system, of the liver or of the blood/brain barrier.
5. Mammalian cell as claimed in claims 1 to 4 which is immortalized.
6. Mammalian cell as claimed in claims 1 to 5 which is a recombinant cell.
7. Mammalian cell as claimed in claims 1 to 6 which is a LLC-PK1 cell harboring a vector for expressing hNTCP protein and a vector for expressing hBSEP protein.
8. Mammalian cell as claimed in claims 1 to 6 which is a MDCKII cell harboring a vector for expressing the hNTCP protein and a vector for expressing the hBSEP protein.
9. Mammalian cell as claimed in claim 8 according to deposit DSM ACC2643.

10. Manufacturing of a mammalian cell according to claims 1 to 9 wherein

- a] a mammalian cell is provided;
- b] a vector is provided encompassing the coding sequence of hNTCP;
- 5 c] a vector is provided encompassing the coding sequence of hBSEP;
- d] the mammalian cell from a] is transformed by a vector from b] and by a vector from c] either simultaneously or consecutively;
- e] a double transfectant cell from d] is identified and propagated.

10 11. Manufacturing of a mammalian cell as claimed in claim 10 wherein the mammalian cell from a] is an epithelial cell of the kidney, of the bowels system, of the liver or of the blood/brain barrier.

15 12. Manufacturing of a mammalian cell as claimed in claims 10 and 11 wherein the mammalian cell from a] is immortalized.

13. Manufacturing of a mammalian cell as claimed in claims 10 to 12 wherein the vector from b] is a polynucleotide according to Fig.9 (Seq ID No. 4).

20 14. Manufacturing of a mammalian cell as claimed in claims 10 to 12 wherein the vector from c] is a polynucleotide according to Fig. 10 (Seq ID No. 5).

25 15. Manufacturing of a mammalian cell as claimed in claims 10 to 14 wherein the mammalian cell is build up as deposited cell DSM ACC2643.

16. A monolayer of cells comprising at least two cells according to claims 1 to 9.

17. A solid surface carrying a monolayer according to claim 16 wherein the monolayer of cells could occupy the part or the whole of the solid surface.

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18. A solid surface as claimed in claim 17 that is formed by a plastic.

19. A solid surface as claimed in claim 17 that is part of a petri dish.
20. A solid surface as claimed in claim 17 that is part of a filter-insert.
- 5 21. A petri dish carrying a monolayer of cells according to claim 17.
22. A filter-insert carrying a monolayer of cells according to claim 17.
- 10 23. A filter-insert as claimed in claim 22 wherein the membrane support is made of polycarbonat and/or polyester.
24. A filter-insert as claimed in claims 22 and 23 wherein the membrane support's pore size is 0.4 μm .
- 15 25. Use of a mammalian cell of claims 1 to 9 for determining a pharmacological profile with respect to hepatobiliary elimination and/or renal excretion and/or brain resorption and/or intestinal resorption.
- 20 26. Use of a mammalian cell as claimed in claim 25 wherein the mammalian cell forms part of a monolayer on a solid surface and/or on a petri dish and/or on a filter-insert.
- 25 27. Mammalian cell having a first and a second side which both sides form part of the outer surface of such cell and which both sides are different from the areas of contact of such cell and which first and second side are distinguished from each other by their localization of opposite ends of such cell wherein the first side carries a functional hNTCP protein and the second side carries a functional hMRP2 protein.
- 30 28. Mammalian cell as claimed in claim 27 wherein the first side is the basolateral side and the second side is the apical side.

29. Mammalian cell as claimed in claims 27 and 28 wherein the first side is the apical side and the second side is the basolateral side.
30. Mammalian cell as claimed in claims 27 to 29 wherein the cell is an epithelial cell of the kidney, of the bowels system, of the liver or of the blood/brain barrier.
31. Mammalian cell as claimed in claims 27 to 30 which is immortalized.
32. Mammalian cell as claimed in claims 27 to 31 which is a recombinant cell.
33. Mammalian cell as claimed in claims 27 to 32 which is a LLC-PK1 cell harboring a vector for expressing hNTCP protein and a vector for expressing hMRP2 protein.
34. Mammalian cell as claimed in claims 27 to 33 which is a MDCKII cell harboring a vector for expressing hNTCP protein and a vector for expressing hMRP2 protein.
35. Mammalian cell as claimed in claims 27 to 34 as deposited as DSM ACC2644.
36. Manufacturing of a mammalian cell according to claims 27 to 35 wherein
- a] a mammalian cell is provided;
 - b] a vector is provided encompassing the coding sequence of hNTCP;
 - c] a vector is provided encompassing the coding sequence of hMRP2;
 - d] the mammalian cell from a] is transformed by a vector from b] and by a vector from c] either simultaneously or consecutively;
 - e] a double transfectant cell from d] is identified and propagated.

37. Manufacturing of a mammalian cell as claimed in claim 36 wherein the mammalian cell from a] is an epithelial cell of the kidney, of the bowels system, of the liver or of the blood/brain barrier.
- 5 38. Manufacturing of a mammalian cell as claimed in claims 36 and 37 wherein the mammalian cell from a] is immortalized.
39. Manufacturing of a mammalian cell as claimed in claims 36 to 38 wherein the vector from b] is a polynucleotide according to Fig. 9 (Seq ID No. 4).
- 10 40. Manufacturing of a mammalian cell as claimed in claims 36 to 38 wherein the the vector from c] is a polynucleotide according to Fig. 11 (Seq ID No. 6).
41. Manufacturing of a mammalian cell as claimed in claims 36 to 38 wherein the mammalian cell is build up as deposited cell DSM ACC2644.
- 15 42. A monolayer of cells comprising at least two cells according to claims 27 to 35.
43. A solid surface carrying a monolayer according to claim 42 wherein the monolayer of cells could occupy the part or the whole of the solid surface.
- 20 44. A solid surface as claimed in claim 43 that is formed by a plastic.
45. A solid surface as claimed in claim 43 that is part of a petri dish.
- 25 46. A solid surface as claimed in claim 43 that is part of a filter-insert.
47. A petri dish carrying a monolayer of cells according to claims 27 to 35.
48. A filter-insert carrying a monolayer of cells according to claims 27 to 35.
- 30 49. A filter-insert as claimed in claim 48 wherein the membrane support is made of polycarbonate and/or polyester.

50. A filter-insert as claimed in claim 48 wherein the membrane support's pore size is 0.4 μm .
51. Use of a mammalian cell of claims 27 to 35 for determining a pharmacological profile with respect to hepatobiliary elimination and/or renal excretion and/or brain resorption and/or intestinal resorption.
52. Use of a mammalian cell as claimed in claim 51 wherein the mammalian cell forms part of a monolayer on a solid surface and/or on a petri dish and/or on a filter-insert.